TQM and Market Orientation in Care Home Services

1. Introduction

Organizations are becoming more customer-focused through the adoption of different management ideas, paradigms and models such as the principles of total quality management (TQM), as they are perceived to be a means to improve organizations' quality of service (Lam *et al.,* 2011). This latter concept is a crucial one, but difficult to evaluate for customers due to the intangibility, variability, perishability, and simultaneous production and consumption characteristics of services (Lam *et al.*, 2012). TQM has been applied as a way of improving activities and performance in service organizations (Yang, 2006; Lee *et al*., 2009; Pereira-Moliner *et al*., 2012). For example, service organizations implementing TQM focus on providing superior value to the customer and on improving the efficiency of their processes. Similarly, continuous improvement of processes and service quality leads to increased revenues through product reliability and reduced costs through process efficiency. As a result, customer satisfaction leads to increased revenues because it enables the firm to gain a market advantage.

There is a range of works in the literature available on the subject that defend the fact that both marketing and TQM, the most widespread quality management approach during recent decades (Dahlgaard-Park, 2011), are complementary management philosophies. This line of reasoning has produced important works such as those by Morris *et al.* (1999), Longbottom *et al.* (2000), Samat *et al.* (2006), Mele (2007) and Malhotra *et al.* (2012). Indeed, there are authors who, by taking into consideration the fact that the central theme of both marketing and TQM is customer satisfaction, have ended up putting forward symbiotic concepts such as *Total Quality Marketing* (Reddy, 1994; Fraser-Robinson and Mosscrop, 1991; Bathie and Sarkar, 2002), which are concepts that have failed to take off either in the academic or the professional literature.

Longbottom *et al.* (2000) highlight the existence of a conceptual convergence between marketing objectives and those of TQM. Along similar lines, Kotler (2000) suggests that the main contributions of the quality paradigm can be internalized through marketing. In this respect, the literature on the subject analyzes *Market Orientation* (MO) as a way of operationalizing the concept of marketing, based on the idea that the concept of marketing is at the heart of the organization. MO is a central construct in marketing theory developed to explain firm performance. As underlined by Eng (2011) there is a consensus in the literature regarding the fact that MO is a source of substantial improvement for the firm as a whole. A market-oriented firm is presumed to be more capable of obtaining organizational goals. Similarly, the role of MO in the alignment of their internal processes with the characteristics of the marketplace (Morgan *et al.,* 2009) and the improvement of sustainable competitive advantage has been underlined in the literature (e.g. Narver and Slater, 1990).

As far as quality is concerned, various works have attempted to operationalize the concept of TQM (Saraph *et al.,* 1989; Flynn *et al.,* 1994; Conca *et al.,* 2004; Das *et al.,* 2011; Yunis *et al.,* 2013). Although the distance existing between the two paradigms is apparent, they also have aspects in common. Marketing in general and MO in particular concentrate on internalizing customer needs, whereby it develops the continuous and proactive monitoring of their needs. TQM also considers customer satisfaction to be a central theme, albeit one pursued via the attainment of excellence in carrying out all processes and continuous improvement in the organisation. This is especially geared towards the internal aspects of the organisation, which are closely linked to people management – aspects such as motivation, participation and support on the part of employees (Melão and Guia, 2013). As such, both share a main objective that is customer satisfaction, which has led many authors to study the relationship between TQM and MO (see recent works by Ramayah *et al.* 2011; Wang *et al.*, 2011, Lam *et al.*, 2012).

Nevertheless, the relationship between TQM and MO has been largely neglected in the literature, as most of the studies have been conducted on the relationship between MO and the

organization's performance (Lam *et al.*, 2012). In addition, a large proportion of these works has been of a theoretical nature, and among the empirical studies most have focused on sectors of activity with a long tradition of adopting management paradigms and tools, such as manufacturing industry. In the TQM field (Huq, 2005; Mahmud and Hilmi, 2014), there has been less analysis in the literature focused on service sectors, despite the growing importance of the service sectors, as underlined by many scholarly works (e.g. Miles and Flanagan, 2003; Castellacci, 2010), as well as by many institutional reports (e.g. Buera and Kaboski, 2009; Eurostat, 2013). This lack of research is even more obvious in some specific service sectors such as health and social care services (e.g. nursing homes), a sector with a growing predominance in many countries (Pavolini and Ranci, 2008) and which is also prone to adopting TQM and other models for Quality Management (Dahlgaard *et al.,* 2011; Melão and Guia, 2013; Voon *et al.,* 2014) and are key services for social cohesion. Nevertheless, some specific fields that have been specially prone to the adoption of TQM, such as nursing homes for the elderly, have been the focus of increasing attention (e.g. Wang, 2013) due to the rise of these industries. Taking into account this gap of the literature, the objective of the present study is to contribute to the scholarly literature that aims to operationalize the concepts of TQM and MO and to analyze the relationship between them in a major economic sector of activity in many western economies, namely the social services sector, and more specifically, the nursing home subsector. This sector has been characterized by its tendency not to be an early adopter of management paradigms such as TQM (Kennedy and Fiss, 2009). Moreover, despite its great economic importance, this sector has only recently started to be the subject to research into business management, possibly because it has had limited professionalization in terms of management (Heras *et al.,* 2008), among other reasons. Specifically, the present research focuses on the nursing homes subsector – an area of growing importance in Spain, given the intense ageing process being experienced by its population – high life expectancy coupled with low fertility will result in a doubling of the

old-age dependency ratio (Serrano *et al.,* 2014) – and the country's special appeal as a destination for senior citizens from other European Union member states.

The rest of the article is structured as follows. The next section summarises the conceptual framework, a review of literature on the subject and the working hypotheses to be examined, which are linked to the operationalization of the basic concepts of this analysis – namely MO and TQM. This is followed by a study of the relationship between these concepts. In the third section, reference is made to the methodology used in the empirical study, the results of which are provided in the following section. The next section draws out the implications of the study. The article concludes with a section containing the research limitations and suggestions for future research

2. Conceptual framework, review of the literature and working hypotheses

2.1. MO

Many definitions about MO are proposed in the literature. Eng (2011) defines MO as the process of intelligence generation, dissemination of intelligence and responsiveness, which is supported by three behavioural components: customer orientation, competitor orientation and inter-functional coordination. Despite the great amount of research that has been conducted into the concept of MO, two views prevail: the marketing intelligence perspective and cultural behavioural perspective (Lam *et al*., 2012). The former perspective sees MO as a series of organizational activities to achieve customer satisfaction (Kohli and Jaworski, 1990). The latter perspective considers MO as the culture that creates the behaviours for achieving superior value for the customer (Narver and Slater, 1990). There is a consensus in the field of MO to the extent that the works by Kohli and Jaworski (1990) and Narver and Slater (1990) are seen as forming the basic doctrinal body of work on MO. Kohli and Jaworski (1990) conceptualize MO in three components: the generation of information about the market, its inter-departmental dissemination and the overall response of the organisation as a whole. In accordance with these three

dimensions, Kohli *et al.* (1993) propose the MARKOR scale for measuring MO. This scale has since been used in numerous works (Matsuno *et al*., 2002, among many others). It has to be taken into account that the MARKOR scale does not address MO as an aspect of an organization's culture (Lam *et al.,* 2012). For their part, Narver and Slater (1990) maintain, from a cultural perspective, that MO can be conceptualized in three components – customer orientation, competition orientation and inter-functional coordination – and propose the MKTOR scale for measuring it. The approaches pursued by these researchers have been used as a basis for works subsequently developed by authors such as Bigné and Blesa (2002) and Rodríguez-Bobada (2005).

Works can also be found in the literature on the subject that argue for the complementary nature of the two standpoints (Homburg and Pflesser, 2000), or that analyze the relationship between them (Gainer and Padanyi, 2005; Yam *et al.,* 2005). These attempts to relate the two theoretical models are complemented by the development of measurement scales of an integrating nature. Thus, Gray *et al*. (1998) propose a measuring method based on a combination of the two scales which can, subsequently, be adapted to each specific situation. This firstly implies the adaptation of the scales to the specific case study, including those items that contain the relevant specific features and disregarding those with less significance and, secondly, statistical and empirical validation of the scale.

With a view to conceptualizing MO in the sector that is the subject of study and starting from the premise that the MKTOR and MARKOR scales have become widely accepted in literature, it is considered appropriate to develop a measurement scale that encompasses both scales by making adjustments or adaptations that are deemed necessary, depending on the features of the sector in question and its target public. In this respect, the eclectic scale proposed by Bigné and Blesa (2002) can be seen as a starting point. It is based on the MARKOR and MKTOR scales. Thus, the first hypothesis may be defined in the following terms by considering the academic literature summarised above:

H1. MO constitutes an integrated multi-dimensional concept within the nursing home sector, which involves the search for information, its dissemination by the different departments that make up the organisation, and the design and implementation of the response and inter-functional coordination.

2.2. TQM

TQM can be seen as a management system encompassing the entire organisation in an effort to create quality (Dahlgaard *et al.,* 2011). TQM is both a philosophy and a set of principles for managing an organization. The theory of TQM has been developed from three different areas: contributions from quality leaders (e.g, Deming, Juran), formal evaluation models (e.g., European Quality Award, Malcolm Baldrige National Quality Award, Deming Award) and measurement studies (e.g., Saraph *et al*., 1989; Flynn *et al*., 1994). This theory has identified several TQM dimensions that can be used to conceptualize TQM. Although in general terms the authors use different dimensions to measure it, which implies that there remains a lack of general consensus about the dimensions that make up this concept (Dahlgaard-Park, 2011), reviews of the specialist literature show that there are common dimensions that can be used to measure TQM as a multidimensional construct (Sila and Ebrahimpour, 2003; Nair, 2006; Molina-Azorín *et al.,* 2009). Thus, from the review of work on TQM it can be concluded that the most common dimensions for the purpose of operationalizing TQM are leadership, planning, information and analysis, people management, customer/stakeholder focus, process management, supplier management and design.

In this context, self-assessment models, such as the EFQM model of excellence, have been used to operationalize TQM (Bou-Llusar *et al.,* 2009; Kim *et al.,* 2010; Al-Tabbaa *et al.,* 2013). One way of developing TQM dimensions is to apply the EFQM model criteria. In pursuit of this line of work and in order to assess the extent to which a nursing home adopts TQM principles, a specific measurement scale was developed that was inspired by the critical dimensions of the EFQM model of excellence. This scale was also based on previous empirical studies that focused

on the sector studied here (Heras *et al.*, 2008). In relation to the EFQM model, the elements of *leadership, people, resources and alliances* and *processes* are the criteria or agents that are most relevant to the sector of nursing homes, whereas the fifth criterion or agent, strategy, is not taken to be important. The specialist literature on this sector maintains (Ararteko, 2004; Heras *et al.,* 2008) that the design and development of the strategic dimension of organisations is not commonplace in this sector. Consequently, the second hypothesis is as follows:

H2. TQM constitutes a composite, multi-dimensional concept in the nursing home sector, with an emphasis on leadership, people, processes and resources and alliances.

2.3. Relationships between TQM and MO

As stated previously, a broad range of research encourages us to argue that TQM represents a platform from which full advantage can be taken of marketing, thus favouring the development of an MO culture (Yam *et al.,* 2005 and Mele, 2007 and Santos-Vijande and Álvarez-González, 2009). From the theoretical perspective, as emphasized by Lam *et al.* (2012), a theoretical synergistic relationship should exist between TQM and MO, since both emphasize customers' needs and customers participation, and aim to accomplish the same ultimate goal of customer satisfaction. The adoption of both TQM and MO require a co-ordination among the different departments of the firm. Demirbag *et al.* (2006) underline that both TQM and MO require an organizational structure designed around the flow of value-adding activities and should also empower employees to manage organizational change.

As emphasized by Lam *et al.* (2012), even though MO can be considered and measured reflectively (cultural perspective) or formatively (behavioural perspective), with the latter measurement claimed to be more appropriate than the former (Coltman *et al.,* 2008), most TQM-related studies operationalize MO as a reflective construct. Nevertheless, the current study follows the line suggested by Lam *et al.* (2012), considering both TQM and MO to be reflective construct that can be assessed using reflective measures consisting of related phenomena.

Although the empirical literature that has analyzed the relationship between TQM and MO is not very extensive, the links suggested in theoretical works on the subject are fairly clear. Yam *et al.* (2005), Wang *et al.* (2011) Lam *et al.* (2012) and Taleghani *et al.* (2013) carried out studies in sectors of activity where there is a strong tradition of professionalization in terms of management. They found clear empirical evidence that adoption of a TQM model is positively related to the development of an MO culture in the organisation. In short, from the empirical literature on the relationship between the two constructs, a positive link may be deduced as follows:

H3. A significant and positive relationship exists between TQM and MO in the nursing home sector.

There are even fewer works in the academic literature that study the specific relationship between the dimensions that make up the concepts of TQM and MO (Lai, 2003; Lai and Cheng, 2005; Samat *et al.,* 2006; and Abusa and Gibson, 2013). In these empirical studies it is maintained that the *people, processes* and *leadership components* are related to MO. Similarly, from empirical studies carried out by Bou-Llusar *et al.* (2009) and Santos-Vijande and Álvarez-González (2009) based on the EFQM model, it can be deduced that a positive relationship *does* exist between the *resources and alliance* criterion and MO. Consequently, in the present case, we suggest the following working hypotheses:

H4a. A significant positive relationship exists between the "leadership" TQM component and the MO construct in nursing homes.

H4b. A significant positive relationship exists between the "processes" TQM component and the MO construct in nursing homes.

H4c. A significant positive relationship exists between the "resources and alliance" TQM component and the MO construct in nursing homes.

H4d. A significant positive relationship exists between the "people" TQM component and the MO construct in nursing homes.

3. Methodology

The study was carried out using a self-administered postal survey. This was done by sending a questionnaire to all nursing homes in the Basque Country – one of the Spanish regions with the most advanced social services systems (Ararteko, 2004). The total list of 368 nursing homes was obtained from a general directory of organizations provided by the Regional Government, that is rigorously maintained and that is accessible to researchers.

To measure the level of MO in the sector, we used a scale that takes the following dimensions into account in the questionnaire: *search for and gathering of information* about the market, *dissemination of information* among the different departments, *design and implementation of the response* by the entire organisation, and *inter-functional coordination* (Table 1). The MO items used in this study were adopted from the mentioned literature but some slight modifications were made due to specific characteristics of the nursing home sector. The questionnaire also included a scale to measure TQM orientation, which is specific to the sector subject to study and comprises the following dimensions: *leadership, people, processes* and *resources and alliances* (Table 2). Interviewees were asked in both scales to assess each of the items using an attitude continuum comprising five response categories, with the two extremes being strongly disagree (1) and strongly agree (5).

The instrument designed for this research underwent a content validation process in order to establish the correspondence between the instrument and its theoretical context. In addition, a pre-test was carried out in which eight administrators from nursing homes took part, with a view to determining on the one hand the extent to which the interviewees understood the different questions and, on the other, the time needed to complete the questionnaire. The questionnaires were sent to all nursing homes in the Basque Country. The survey was carried out from October

2009 to January 2010. With 137 fully-completed, valid responses being received for subsequent analysis – meaning a 37.23% response rate, a very good rate of response when compared with other similar studies of the field of quality management carried out in Spain (e.g. Allur *et al.,* 2014). This is a sample size that is considered appropriate to be analyzed by the SEM as the proposed model is not a complex one and the data is pre-refined (Anderson and Gerbing, 1988; Fan *et al*., 1999; Tanaka, 1993). As far as those organizations that failed to respond are concerned, the features of the sample are similar to those of the population from which they are drawn. As now customary in empirical work reported in the literature on the subject (e.g. Talib *et al.,* 2013; Mellat-Parast*,* 2013), common method bias was also analyzed, given that the variables were grouped together in the same measuring instrument. Such possible distortion was examined using Harman's post-hoc single factor test. This showed that the factor with the greatest weight accounted for 38.4% of total variance – less than the 50% recommended value referred to in the literature (Podsakoff and Organ, 1986).

Tables 1 and 2

The analytical techniques used started with an exploratory factor analysis of the main components of each scale, in order to ascertain whether the latent factors found correspond to those established on the basis of the specialist literature on the subject. This analysis allowed for preliminary debugging of the scales. Secondly, a confirmatory factor analysis (CFA) of prime importance was carried out in order to check the validity of the measuring instruments, and also to study the goodness of fit of the scales and their internal consistency. Hypotheses 1 and 2 were also tested, in addition to validating the scales, and SPSS v 20.0 and AMOS v 20.0 statistical programs were used for these analyses. Lastly, structural equation modelling was used to test Hypotheses 3 and 4.

4. Research results

4.1. Multi-dimensional structure of market orientation

Firstly, we conducted a factor analysis of the main components and a reliability analysis with a view to carrying out preliminary debugging of the scales. It was decided to disregard those items with a factor weighting of less than 0.5, those that failed to have a clear loading on a factor and those whose correlation with the sum of the remaining items proved not to be sufficiently significant (Bagozzi, 1994), as their presence might have had an adverse effect on the internal consistency of the scale. Taking into consideration the aforementioned criteria, we went on to disregard items SEAR3, DISSEM1, COORD3, RESP2, RESP3, RESP4 and RESP9. Although in some cases it proves theoretically difficult to explain the omission of these items, this may be due either to the fact that they contain information that was already obtained by other items (DISSEM1, COORD3), that they are not particularly relevant in explaining the construct (RESP2 and RESP9), or owing to the fact that the nursing home sector is not a very competitive sector (SEAR3).

Once initial internal consistency had been checked, factor analysis was once again performed on the main components, and that enabled the existence of clear factor structure to be determined – with all items attaining a factor weight of over 1.6 and with all of them having a clear loading on a factor. In this way, the presence of four dimensions was verified - search for information, dissemination of information, design and implementation of the response and inter-functional coordination – and identified for the MO concept. The four aforementioned factors managed to jointly account for a major percentage of total variance, specifically 63.87%. Use of confirmatory factor analysis subsequently made it possible to make more advances in the scale debugging process. Figure 1 represents the theoretical model where the latent variables that we wished to measure together with the variables observed or items contained in the questionnaire which were used as measurements are related. When studying the convergent validity, we noted that the standardized factor loadings attained a level that was higher than or very close to 0.6

(Bagozzi, 1994) and were significantly different from zero at a 99% confidence interval. The sole exception was indicator RESP8, which had a 0.5 factor loading and individual reliability below that required, which is why we decided to remove it from the scale.

Figure 1

Debugging of this item came as no surprise, as this is a statement that triggered a certain amount of contradiction among interviewees. This was because, as all of them were in agreement about the social usefulness of the services provided by the organisations that make up the sector, few nursing homes actively take part in any courses of action that tend to show this. Conversely, the term *active participation* may have given rise to a certain amount of confusion among those interviewed. Removal of this indicator compelled us once again to calculate the parameters for the confirmatory factor analysis. New data shows significant factor loadings which are either above or close to 0.6 in all cases. Therefore, all indicators meet this requirement and also attain the individual reliability required (Table 3). The fact that the variables observed are significantly related to their respective constructs is confirmed and the proposed relationship between indicators and constructs proven, thus highlighting the convergent validity of the model.

Table 3

We then went on to assess the *discriminant validity* of the model. Correlations between the four MO dimensions postulated in no case exceeded 0.80, which points to a certain discriminant validity. In accordance with the approach put forward by Anderson and Gerbing (1988), we calculated the confidence interval of the correlation coefficients between each pair of dimensions and verified the fact that none of these intervals included the value 1.

The goodness of fit indexes shown in Table 4 were subsequently analyzed. In accordance with literature available on the subject (Hair *et al.,* 1999; Del Barrio and Luque, 2000; Lévy, 2003) the indexes obtained from the analysis showed proper goodness of fit of the model. On the other hand, and as far as the reliability of the dimensions was concerned, Cronbach's alpha was above 0.7 in all cases. The composite reliability rates also reached suitable values, as all of them exceeded 0.7 (Del Barrio and Luque, 2000). Mean extracted variance (MEV) can also be considered acceptable, given that it exceeded 50% (Hair *et al.,* 1999).

Table 4

In accordance with these results, the conclusion may be drawn that the scale obtained, which takes into consideration the dimensions *search for and gathering of information, dissemination of information, design and implementation of the response* and *inter-functional coordination,* proves to be a sufficiently reliable and valid instrument for the purpose of determining the MO level of nursing homes – in other words, the results obtained support hypothesis *H1*, which is therefore accepted.

4.2. Multi-dimensional structure of TQM

An identical procedure was carried out to that used for validation of the MO measurement scale in order to debug the TQM orientation measurement scale that was initially proposed. The debugging process continued until acceptable levels of reliability and validity were reached. Following the initial debugging process, the representative subscales of the four dimensions – *people, leadership, processes* and *resources and alliances* – were grouped into 4, 2, 3 and 3 items respectively. These four dimensions jointly accounted for a high percentage of total variance, specifically 65.56%. A confirmatory factor analysis was then carried out in order to make further progress in the scale debugging process and to ascertain the factor structure

identified. Figure 2 represents the theoretical model where the latent variables that we wished to measure together with the variables observed are related.

Figure 2

As regards the *convergent validity* of the model and taking into consideration the criteria referred to previously, we noted (see Table 5) that all the standardized factor loadings attained a level that was higher than or very close to 0.6 (Bagozzi, 1994) and were significantly different from zero at a 99% confidence interval. They also attained the individual reliability required.

Table 5

On the other hand, correlations between the four TQM dimensions did not exceed 0.80, which points to a certain *discriminant validity*. Furthermore, we calculated the confidence interval of the correlation coefficients between each pair of dimensions and subsequently verified the fact that none of these intervals included the value 1 (Anderson and Gerbing, 1988).

In addition, the model proposed showed proper goodness of fit of the model (Table 6). Despite this, alternative models were considered by disregarding those items with less strength and by comparing them with the model proposed, without managing to improve on goodness of fit indexes. As far as the reliability of the dimensions was concerned, Cronbach's alpha was above 0.7 in all cases. The composite reliability rates also attained suitable values, as all of them exceeded 0.7 (Del Barrio and Luque, 2000). Mean extracted variance (MEV) can also be considered acceptable, given that it exceeded 50% (Hair *et al.,* 1999).

Table 6

In short, all the analyses carried out enabled us to accept the TQM orientation measuring model as represented in Figure 2. Acceptance of this model means admitting that the concept of TQM in the field of nursing homes may be represented by four basic dimensions in the form of *leadership, people, processes* and *resources and alliances*. Thus, hypothesis *H2* is supported.

4.3. Relationship between TQM and market orientation in the nursing home sector

The final hypotheses taken into consideration in this work assumed the existence of a causal link between TQM and MO. This would mean admitting that a positive influence on nursing home MO is established as TQM principles become adopted and its management models and tools are used. An attempt was made to test for the existence of this relationship using the causal model represented in Figure 3. Secondary factors were calculated in this model and, as in the previous cases, we used the generalized least square method (GLS) to calculate the parameters.

Figure 3

The goodness of fit indexes for the structural model indicate proper fit overall, and so the model proposed is a suitable representation of the causal relationships as a whole (Table 7). As regards the *convergent validity* of the model, all the parameters were significantly different from zero, given that the associated critical coefficients were above 3.31 for a 99.9% confidence interval (Table 8).

Tables 7 and 8

Lastly and in accordance with the theoretical model proposed (Figure 3), we focus on a study of the causal relationship between TQM and MO. Thus, the value attained by standardized loading of the structural relationship (0.949) and its critical coefficient (8.168) reveal that the structural parameter was significantly different from zero for a 99.9% confidence level.

Furthermore, the R^2 coefficient attained a value of 0.90, highlighting the exceptionally good fit of the model. All these results enable us to accept the model and confirm the existence of a positive relationship between TQM and MO. We should also draw attention to the fact that the relationship taken into consideration is a significant and strong one. Thus, we are in a position to accept hypothesis *H3*.

4.4. Relationship between TQM components and market orientation in the nursing home sector

Our hypotheses point to a significant positive relationship between TQM components – *leadership, people, processes* and *resources and alliances* – and MO in nursing homes, according to the causal model represented in Figure 4.

Figure 4

When assessed as a whole, the goodness of fit indexes for the structural model indicated a proper fit (Table 9). We can therefore draw the conclusion that the model proposed is a suitable representation of the causal relationships as a whole. On the other hand, in Figure 5 we can observe the values attained by standardized loadings of the structural relationships and their critical coefficients. The results tell us that only three of the four relationships we studied can be considered significant at a 95% confidence level, with a critical coefficient of over 1.96.

Table 9 and Figure 5

In short, we can conclude that the model suitably fits the data obtained, which enables us to accept the existence of a significant positive relationship between the TQM dimensions *leadership, people* and *processes* and MO. Furthermore, the relationship is stronger in the case of the *people* dimension, highlighting the importance of the human factor in attaining MO in the sector that was the subject of this study. Thus, we think that hypotheses *H4a*, *H4b* and *H4d* can be accepted.

However, the relationship between the *resources and alliances* TQM dimension and MO is not significant at the 95% confidence level. In other words, alliances outside the organisation and their internal resources would seem not to be important in the nursing home sector when implementing a marketing philosophy within the organisation. Therefore, our model does not enable us to accept hypothesis *H4c*.

5. Implications of the study

First, the results show that in the social services sector, MO is a multi-dimensional concept that can be determined using the scale that has been designed and validated, and that it takes into account the *search for information, dissemination of information, design and implementation of the response* and *inter-functional coordination* dimensions. Thus, the scale takes into account the following: search for and gathering of information about current and future user needs, about their level of satisfaction and about changes in the sector; the dissemination of information regarding demand and competition by the entire organisation; design and implementation of the response based on user wishes and courses of action taken by the competition; and lastly, coordination between the different departments with a view to attending to the market and satisfying residents and other interest groups. Likewise, it can be confirmed that TQM

orientation in the social services sector and specifically in the area of nursing homes is a multi-dimensional concept that can be measured using a scale comprising the *leadership, people, processes* and *resources and alliances* dimensions. Thus, a specific scale that takes into account the following areas may be used in order to assess the extent to which a nursing home adopts TQM principles: staff training in good practices with regard to care and improvement in terms of management; employee autonomy in decision-making regarding improvement in quality and the putting into practice of their suggestions; the existence of plans that envisage changes and staff recognition plans; the existence of a system for gathering information about residents and family members, a complaints and claims system and a procedure for analyzing the causes of abandonment on the part of users; and lastly, the existence of inter-functional work teams, relationships with suppliers and alliances with partners and collaborators from within the sector. These outcomes – relating to hypotheses H1 and H2 – confirm the results of previous studies carried out in the general service sector (e.g. Lam *et al.*, 2012).

Second, it can similarly be concluded that the taking on board of TQM principles helps to attain a greater degree of MO in the nursing home sector. Adoption of TQM principles would seem to favour the development of an MO culture, given that a certain complementarity exists between the two philosophies, as has been argued in this work. The results obtained from the empirical study provide evidence of a significant positive relationship between the components of quality – *processes, leadership* and *people* – and MO in nursing homes. However, the study has not made it possible to assert that there is a significant relationship between the *resources and alliances* dimension and MO. Thus, there is evidence to suggest that leadership in the management of the nursing home is important for the purpose of developing a marketing philosophy within the organisation by coordinating the different organisational functions with a view to obtaining a high level of user satisfaction. Similarly, administering and developing the potential of those individuals who form part of the nursing home has a positive influence on its MO. Furthermore, the design and management of processes geared to determining user needs and expectations,

their satisfaction and determining the level of satisfaction of residents and their family members, make a positive contribution to MO in organisations. Lastly, even though it is difficult to explain the lack of significance in the relationship between the *resources and alliances* TQM dimension and MO, we dare to speculate that the reason for this may lie in the fact people constitute the internal resource deemed most essential to orientating a nursing home towards the market – with other aspects such as the functional nature of buildings, the purchase of equipment and the management of financial resources being less important. Similarly, external alliances with other nursing homes, associations, foundations, subcontractors or other interest groups may prove not to be of great importance in defining MO within the sector. These outcomes are in line with other previous studies carried out by Yam *et al.* (2005), Wang *et al.* (2011) and Taleghani *et al.* (2013) for other sectors of activity. For example, Taleghani *et al.* (2013) found a very similar result in their recent study carried out in Iran with the participation of 264 managers of organizations belonging to the insurance sector.

These conclusions suggest a range of implications for managerial staff and professionals from the social services sector. Managers need to take into account the fact that the application of a management system in nursing homes that is based on TQM dimensions favours the development of an MO culture. Likewise, from our research we have been able to draw the conclusion that staffing is the key factor in orientating the residential home towards the market – the causal relationship between the *people* dimension and MO is closer than that of the other dimensions. This evidence means that it is important to recognize the fact that in a nursing home, everyone who forms a part of it is responsible for satisfactorily meeting user needs. The prominent role of the *people* dimension suggests that managers should first and foremost improve the communication process for adopting TQM and examine, together with the employees, what could be gained from this complex process.

6. Research limitations and suggestions for future research

There are some limitations to the work that need to be taken into account. The instrument used to measure MO and TQM is based on perceptions provided by the managerial staff interviewed and their responses. Therefore, a certain social desirability bias is likely. Consequently, although such perceptions reveal an overall opinion that aligns with the standpoint of the company, we think it would also be interesting in future studies to obtain the opinion or perception of the target public of organisations in the sector, to find out their views on TQM orientation, and also the opinion of employees in these organisations, who ultimately are the ones who have the ability to provide quality care geared towards improving user satisfaction. The facts seem to suggest that the former construct may also be measured by other widely acceptable scales devised by Kohli and Jaworski (1990) or Narver and Slater (1990) and the latter construct by Gronroos (1982). The adoption of alternative scales on the same sample would be a worthwhile line for future inquiry. In addition to this, future research should consider extending the current conceptual model by linking TQM, market orientation and service quality to business performance such as financial results, customer satisfaction and productivity (see Chiou and Chang, 2009; Tanninena *et al.,* 2010) in order to yield more valuable implications about the use of TQM managerial techniques and the theoretical links with business results. Such implications would be important for both practitioners and academics.

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Table 1: Specific MO scale for nursing homes

SEARCH FOR AND GATHERING OF INFORMATION
SEAR1- We periodically meet our residents and family members to find out their current and future needs
SEAR2- We periodically measure resident and family member satisfaction with our services
SEAR3- We try to learn in depth about competitors (prices, communications activities, care models, etc.)
SEAR4- We immediately detect major changes in our sector
SEAR5- We periodically review our services in order to make sure they are in line with residents' and family members' wishes
DISSEMINATION OF INFORMATION
DISSEM1- Information about resident and family member satisfaction is systematically distributed among all the departments in the nursing home
DISSEM2- The nursing home management analyzes competitors' strengths and weaknesses
DISSEM3- When staff have important information about our competitors, they swiftly notify management about it
DISSEM4- Any information originating from the market is distributed among all the departments
DESIGN AND IMPLEMENTATION OF THE RESPONSE
RESP1- We focus on the segments of the market in which we have or may gain advantages
RESP2- Our services are designed according to residents' and family members' needs
RESP3- We provide full information to our residents and family members in order for them to take full advantage of our services
RESP4- We deal with all complaints from residents and family members
RESP5- We respond swiftly to action taken by competitors
RESP6- The cost of a private place is mainly decided by taking into consideration the value given to our services by residents and family members
RESP7- We are satisfied with the extent to which the marketing plan is fulfilled
RESP8- We actively take part in actions that tend to show the general public the general usefulness of our sector
RESP9- We swiftly adapt to legislative changes
INTER-FUNCTIONAL COORDINATION
COORD1- The different departments are well-coordinated for the purpose of attending to our market
COORD2- Each of our individuals in charge know how to help improve residents' satisfaction
COORD3- Staff periodically meet to jointly plan the response to any changes that may take place within the milieu

Table 2: TQM orientation scale specific to nursing homes

PEOPLE
PEOP1- Staff receives specific information regarding good practices in care
PEOP2- Staff receives specific information regarding improvement in management
PEOP3- Staff has autonomy in taking decisions regarding the quality of the service
PEOP4- Many suggestions made by staff are put into practice
LEADERSHIP
LEAD1- We have plans at our disposal for envisaging changes caused by different factors (investment, funding, staff selection,etc.)
LEAD2- There are plans in place for recognising and rewarding contributions made by staff towards improving quality
PROCESSES
PROCES1- There is an effective communications system *from/to* employees
PROCES2- We regularly ask residents and family members about what they expect now and in the future from our services
PROCES3- We analyze the reasons why residents abandon the nursing home
PROCES4- We use complaints and claims to improve what we offer
RESOURCES AND ALLIANCES
R&A1- There are inter-functional work teams geared to improving quality
R&A2- We maintain close relations with suppliers which are geared towards the long term and towards dealing with problems regarding quality

R&A3- We are willing to develop alliances with partners or collaborators from within the sector who may help us to achieve competitive advantages

Figure 1: Measurement models for MO

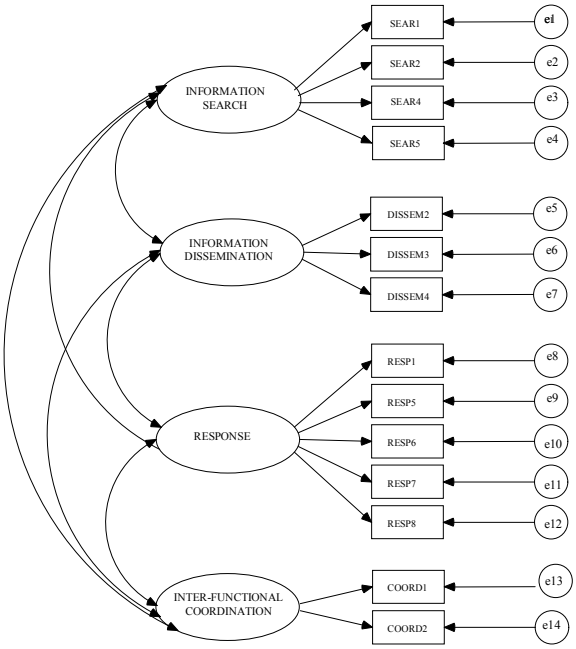

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Table 3: Validation of the items of the MO scale

		Standardized loads	*t value*	*R^2*	*P*
SEAR1	← Information search	0.601	*	0.362	
SEAR2	← Information search	0.822	6.023	0.676	***
SEAR4	← Information search	0.786	5.212	0.618	***
SEAR5	← Information search	0.657	5.454	0.431	***
DISSEM2	← Information dissemination	0.728	*	0.530	
DISSEM3	← Information dissemination	0.849	6.230	0.720	***
DISSEM4	← Information dissemination	0.755	5.626	0.570	***
RESP1	← Response	0.592	*	0.351	
RESP5	← Response	0.747	4.540	0.558	***
RESP6	← Response	0.596	3.858	0.356	***
RESP7	← Response	0.668	3.959	0.447	***
COORD1	← Inter-functional coordination	0.752	*	0.565	
COORD2	← Inter-functional coordination	0.843	6.077	0.711	***

(*) These variables receive 1 as a factorial load. * p < 0.05; ** p < 0.03; ***p < 0.0

Table 4: Indicators of fitness of the MO model

Absolute fitness measures	
Chi-square (degrees of freedom)	83.289 (59)
Significance level	0.03
Goodness of Fit Index (GFI)	0.906
Root Mean Square Error of Approximation (RMSEA)	0.055
Incremental fitness measures	
Adjusted Goodness of Fit Index (AGFI)	0.885
Incremental Fit Index (IFI)	0.831
Comparative Fit Index (CFI)	0.855
Parsimonious fitness measures	
Normed Chi-Squared (NCS)	1.41

Figure 2: Measurement models for TQM

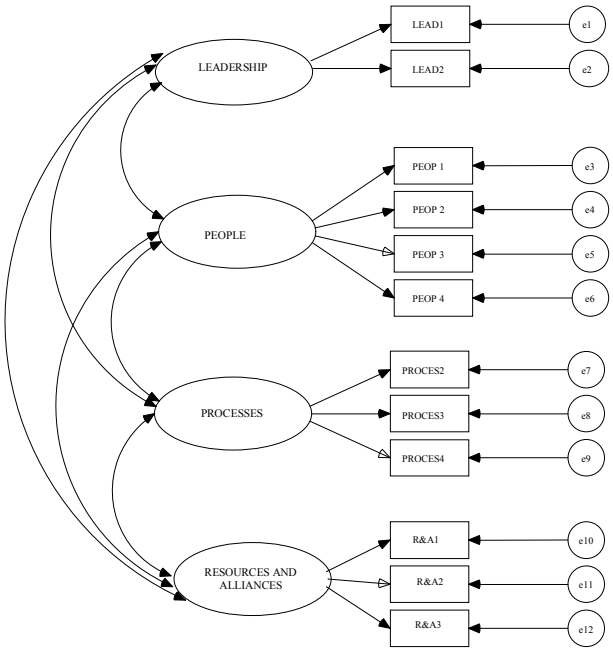


Table 5: Validation of the items of the TQM scale

		Standardized loads	*t value*	*R²*	*P*
LEAD1	← LEADERSHIP	0.764	*	0.583	
LEAD2	← LEADERSHIP	0.713	4.220	0.508	***
PEOP1	← PEOPLE	0.716	*	0.513	
PEOP2	← PEOPLE	0.678	6.134	0.460	***
PEOP3	← PEOPLE	0.593	4.930	0.352	***
PEOP4	← PEOPLE	0.684	5.960	0.468	***
PROCES2	← PROCESSES	0.700	*	0.490	
PROCES3	← PROCESSES	0.712	5.946	0.507	***
PROCES4	← PROCESSES	0.726	5.034	0.527	***
R&A1	← RESOURCES AND ALLIANCES	0.599	*	0.359	
R&A2	← RESOURCES AND ALLIANCES	0.823	5.192	0.677	***
R&A3	← RESOURCES AND ALLIANCES	0.680	5.003	0.462	***

(*) These variables receive 1 as a factorial load. * p < 0.05; ** p < 0.03; ***p < 0.01

Table 6: Indicators of fitness of the TQM model

Absolute fitness measures	
Chi-square (degrees of freedom)	51.854 (48)
Nivel de significación	0.326
Goodness of Fit Index (GFI)	0.936
Root Mean Square Error of Approximation (RMSEA)	0.024
Incremental fitness measures	
Adjusted Goodness of Fit Index (AGFI)	0.897
Incremental Fit Index (IFI)	0.957
Comparative Fit Index (CFI)	0.946
Parsimonious fitness measures	
Normed Chi-Squared (NCS)	1.080

Figure 3: Proposed structural model

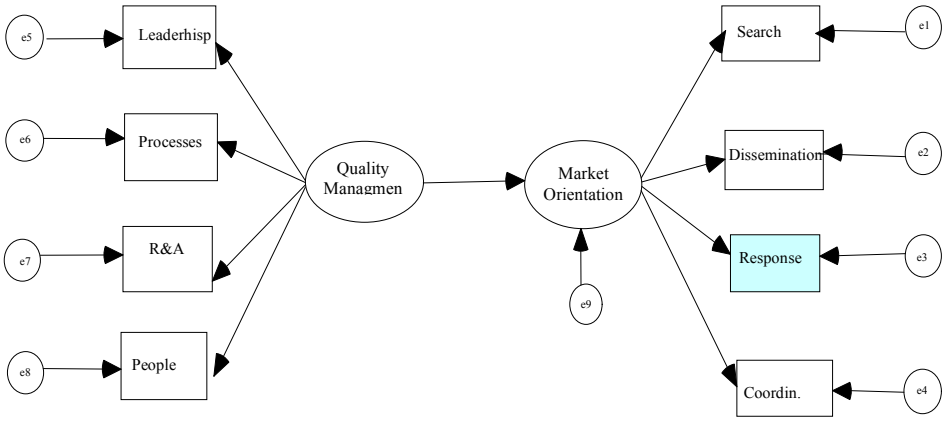


Table 7: Indicators of fitness of the Structural Model

Absolute fitness measures	
Chi-square (degrees of freedom)	25.571 (19)
Nivel de significación	0.143
Goodness of Fit Index (GFI)	0.953
Root Mean Square Error of Approximation (RMSEA)	0.050
Incremental fitness measures	
Adjusted Goodness of Fit Index (AGFI)	0.911
Incremental Fit Index (IFI)	0.897
Comparative Fit Index (CFI)	0.880
Parsimonious fitness measures	
Normed Chi-Squared (NCS)	1.345

Table 8: Structural Model: measurement instruments and causal relationships

	Standardized loads	*Critical coef.*	*P*
Search ← MO	0.770	*	
Dissemination ← MO	0.739	7.230	***
Response ← MO	0.810	8.059	***
Coordination ← MO	0.605	6.664	***
People ← TQM	0.754	*	
Leadership ← TQM	0.649	4.786	***
Processes ← TQM	0.734	7.805	***
Resources ← TQM	0.751	7.905	***
OM ← TQM	0.949	8.168	***

(*)These variables receive 1 as a factorial load. * p < 0.05; ** p < 0.03; ***p < 0.01

Figure 4: Proposed structural model

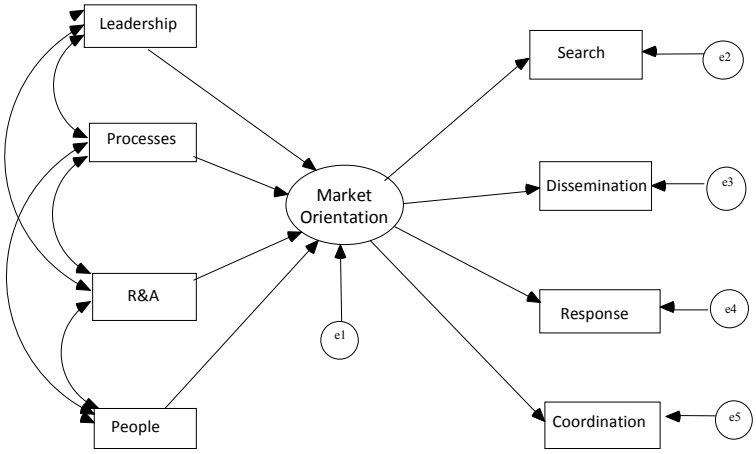
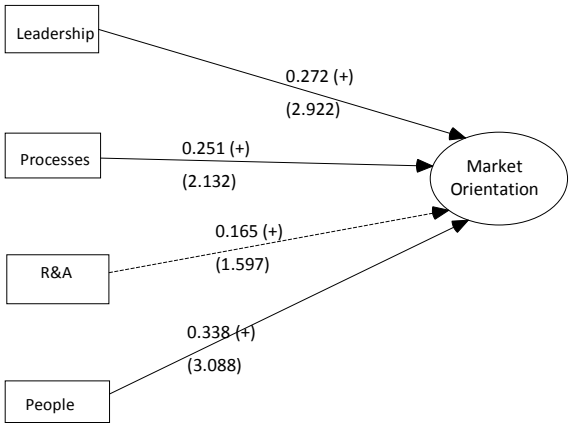


Table 9: Indicators of fitness of the Structural Model

Absolute fitness measures	
Chi-square (degrees of freedom)	24.36 (14)
Significance level	0.041
Goodness of Fit Index (GFI)	0.955
Root Mean Square Error of Approximation (RMSEA)	0.074
Incremental fitness measures	
Adjusted Goodness of Fit Index (AGFI)	0.885
Incremental Fit Index (IFI)	0.854
Comparative Fit Index (CFI)	0.818
Parsimonious fitness measures	
Normed Chi-Squared (NCS)	1.740

Figure 5: Proposed structural model



About the Authors

Dr. Eduardo San Miguel is an Associated Professor at the University of Basque Country in Spain. His main research field deals with the study of the adoption of Total Quality Management and its relationship with the Marketing within the field of Social Services. He has carried out several research projects on this issue both from a scholarly and practitioner perspective.

Dr. Iñaki Heras Saizarbitoria is a Full Professor at the University of Basque Country in Spain. His main research field deals with the study of the adoption of Total Quality Management. He has published several articles on this issue in some of the main international academic journals of the field (i.e. Total Quality Management and Business Excellence, International Journal of Operations and Production Management, International Journal of Management Reviews).

Dr. José Tarí is an Associated Professor in Business Management at the University of Alicante, Spain. His PhD dissertation was an analysis of Quality Management. His current research includes Total Quality Management and the relationship between Quality Management and Environmental Management, and Quality Management and Social Responsibility. He has published several articles on this issue in some of the main international academic journals of the field (i.e. Total Quality Management and Business Excellence, International Journal of Operations and Production Management).